

WHAT IS CLAIMED IS:

1 1. A system for identifying a scrambling code from signals received from
2 a base station, comprising:
3 a scrambling code generator configured to generate a master scrambling code;
4 control logic configured to generate a plurality of individual scrambling codes
5 based on the master scrambling code, the plurality of individual scrambling codes being
6 sequential and any two adjacent individual scrambling codes having a predetermined chip
7 offset; and
8 a plurality of correlators configured to perform correlations and generate
9 correlation results, each correlator configured to correlate the received signals with a
10 corresponding one of the plurality of individual scrambling codes and generate corresponding
11 correlation results, the plurality of correlators performing their correlations in a parallel
12 manner.

1 2. The system according to claim 1 wherein the correlation results
2 generated by the plurality of correlators are evaluated to identify the scrambling code from
3 the received signals thereby allowing the identity of the base station which transmitted the
4 received signals to be identified.

1 3. The system according to claim 1 wherein the plurality of correlators
2 perform their correlations in a real-time manner.

1 4. A mobile terminal incorporating the system as recited in claim 1.

1 5. The system according to claim 1 wherein the base station is located in
2 a W-CDMA communication network.

1 6. A system for identifying a scrambling code from signals received from
2 a base station, the base station belonging to one of a plurality of base station groups in a
3 communication network, the system comprising:
4 a scrambling code generator configured to generate a master scrambling code;
5 control logic configured to generate a plurality of individual scrambling codes
6 based on the master scrambling code, the plurality of individual scrambling codes being
7 sequential and any two adjacent individual scrambling codes having a predetermined chip
8 offset; and

9	a plurality of correlators configured to perform correlations and generate correlation results, each correlator configured to correlate the received signals with a corresponding one of the plurality of individual scrambling codes and generate corresponding correlation results, the plurality of correlators performing their correlations in a parallel manner.	13
10	The system according to claim 6 wherein the master scrambling code has a period determined by a correlation length and a predetermined group chip offset.	2
11	The system according to claim 7 wherein the predetermined group chip offset is determined by number of base stations within a base station group and the predetermined chip offset.	3
12	The system according to claim 6 wherein the plurality of correlators perform their correlations in a real-time manner.	2
13	A mobile terminal incorporating the system as recited in claim 6.	1
14	The system according to claim 6 wherein the communication network is a W-CDMA communication network.	2
15	A method for identifying a scrambling code from signals received from a base station, comprising:	2
16	generating a master scrambling code;	3
17	generating a plurality of individual scrambling codes, wherein the plurality of individual scrambling codes are sequential and any two adjacent individual scrambling codes are separated by a predetermined chip offset; and	6
18	correlating the received signals with each of the plurality of individual scrambling codes in a parallel manner and generating correlation results therefor.	8
19	The method of claim 12 further comprising:	1
20	evaluating the correlation results to identify the scrambling code from the received signals thereby allowing the identity of the base station which transmitted the received signals to be identified.	4

- 1 14. The method of claim 12 wherein the base station belongs to one of a
2 plurality of base station groups in a communication network and the step of generating the
3 master scrambling code further comprises:
4 selecting a correlation length; and
5 generating the master scrambling code using the selected correlation length
6 and a predetermined group chip offset.
- 1 15. The method of claim 14 wherein the predetermined group chip offset is
2 determined by number of base stations within a base station group and the predetermined
3 chip offset.
- 1 16. The method of claim 12 wherein the correlations are performed in a
2 real-time manner.
- 1 17. A mobile terminal utilizing the method as recited in claim 12.
- 1 18. The method according to claim 12 wherein the base station is located
2 in a W-CDMA communication network.
- 1 19. A system for identifying a scrambling code from signals received from
2 a base station, comprising:
3 means for generating a master scrambling code;
4 means for generating a plurality of individual scrambling codes, wherein the
5 plurality of individual scrambling codes are sequential and any two adjacent individual
6 scrambling codes are separated by a predetermined chip offset; and
7 means for correlating the received signals with each of the plurality of
8 individual scrambling codes in a parallel manner and generating correlation results therefor.
- 1 20. The system according to claim 19 further comprising:
2 means for evaluating the correlation results to identify the scrambling code
3 from the received signals thereby allowing the identity of the base station which transmitted
4 the received signals to be identified.
- 1 21. The system of claim 19 wherein the means for correlating performs its
2 correlations in a real-time manner.

1 22. A mobile terminal utilizing the system as recited in claim 19.

1 23. The system according to claim 19 wherein the base station is located in
2 a W-CDMA communication network.